



Shop Drawings and Other Construction Submittals

A brief overview





A brief overview







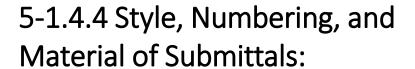


In general, the Department requires shop drawings for items of work not fully detailed in the Plans which require additional drawings and coordination prior to constructing the item.



Why require Shop Drawings?





5-1.4.4.1 Drawings: Submit all shop drawings that are necessary to complete the structure in compliance with the design shown in the Plans.



Why require Shop Drawings?





5-1.4.6.1 Contractor Responsibility for Accuracy and Coordination of

Shop Drawings:

Submittal of the drawings confirms verification of the work requirements, units of measurement, field measurements, construction criteria, sequence of assembly and erection, access and clearances, catalog numbers, and other similar data. Indicate on the shop drawings all deviations from the Contract drawings and itemize all deviations in the letter of transmittal. Likewise, whenever a submittal does not deviate from the Contract Plans, clearly state so in the submittal.



Why require Shop Drawings?



What are "shop drawings"... they're just drawings, right?



Why require Shop Drawings?





- ☐ All working, shop and erection drawings
- ☐ Associated trade literature
- **□**Calculations



Shop Drawing Definition



- **□** Schedules
- Manuals
- ☐ Similar documents submitted to define some portion of the project work



Shop Drawing Definition



Shop Drawings for types of work permanent and temporary as appropriate to the project.



Shop Drawing Definition





General:

- □ Contractor must submit schedule of submittals within 60 days of the Contract start.
- ☐ Schedule submitted to Shop Drawing Review Office and EOR.
- ☐ Submittals should not occur before schedule submittal.

Shop Drawings

General



- ☐ Shop Drawing submittal schedule to allow 45-day review time.
- ☐Time commences upon EOR's receipt.
- ☐Time ends upon EOR's submittal.



General





□All the permanent structures and parts thereof required of the completed Contract.



Shop Drawings

Permanent Works Definition





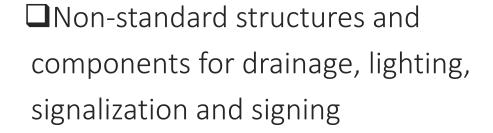
Permanent Works Include:

- ☐ Bridge components not fully detailed in the Plans
- ☐ Retaining Wall Systems
- ☐ Precast Box Culverts

Shop Drawings

Permanent Works





- ☐ Building structures
- Non-standard crash cushions and other nonstructural items
- ☐ Design and structural details furnished by the Contractor in compliance with the Contract



Permanent Works





- ☐ Structural Steel/Miscellaneous Metals
- ☐ Concrete Structures (not CIP)
- ☐ Major and Unusual Structures



Additional clarification for certain types of bridge structures



- Other provisions of the Contract Documents may waive the requirement for submittals for certain items.
- Review the Contract Documents to determine the submittals required.







Any temporary construction work necessary for the construction of the permanent works.



Shop Drawings

Temporary Works Definition





- Bracing
- ☐ Falsework
- **□** Formwork
- **□**Scaffolding
- ☐ Shoring



Temporary Works



- ☐ Temporary earthworks
- ☐ Sheeting
- □ Cofferdams
- ☐ Special erection equipment.



Temporary Works



Temporary Work do not require shop drawings unless...



Shop Drawings

Temporary Works



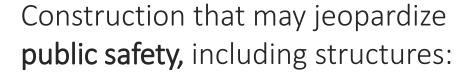


- ☐ Special erection equipment
- Bracing
- **□** Falsework
- ☐ Scaffolding, etc.



Temporary Works:





- ☐ Spanning functioning vehicular roadways
- ☐ Pedestrian walkways
- ☐ Railroads



Temporary Works:



- Navigation channels of navigable waterways
- Walls or other structure foundations located in embankments immediately adjacent to functioning roadways



Temporary Works:



It does **NOT** apply to those areas of the site under the Contractor's control and outside the limits of normal public access.



Shop Drawings

Temporary Works:





Minor Modifications:

- ☐ Changes made to items not significantly altering the quantity of the work
- □Altered plate sizes, reinforcing bar sizes, concrete dimensions for example.

Shop Drawings

Modifications for Construction:

Minor Modifications





- ☐ In the Engineer's opinion do significantly alter the quantity of the work
- ☐ Significantly alters the maintainability of the structure
- ☐ Altering beam sizes, material strength/type



Modifications for Construction:

Major Modifications



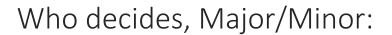
- Such modifications require a Cost Savings Initiative Proposal (CSIP) and may require additional submittals
- ☐ Such changes require revised, signed and sealed sheets to the Contract Plans before shop drawing submittal



Modifications for Construction:

Major Modifications





- ☐ The Engineer determines what is Minor versus what is Major
- ☐ The Engineer's determination is final



Modifications for Construction:

Minor vs. Major Modifications



FDOT

FYI:

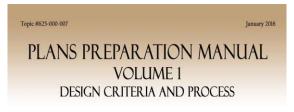
- ☐ Shop drawings are not required for prequalified items.
- ☐ Shop Drawings also help the Department in perpetuity after the project has been constructed through As-builts.

Shop Drawings

Additional Information



Further guidance can be found in the PPM.



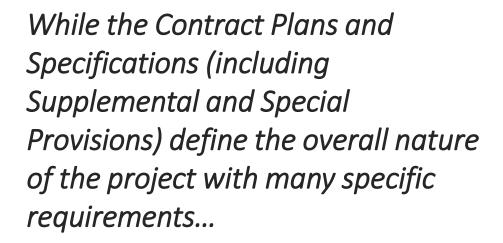




Shop Drawings and You

Further Information







PPM

Chapter 28: Shop and Erection Drawings



...Shop Drawings provide a method for the Contractor to propose, under specification guides and for the Department to approve or reject a particular material, product or system of accomplishing the work.



PPM

Chapter 28: Shop and Erection Drawings



"People have to remember, that Shop Drawings are not a Contract Document."

--Ben Goldsberry, P.E.



Shop Drawings





Other Construction Submittals

A brief overview



TABLE OF CONTENTS

anual

Effective: July 1, 2002 Revised: January 24, 2013

CONSTRUCTION PROJECT ADMINISTRATION MANUAL (CPAM)

Table of Contents

Introduction Introduction for Final Estimates Process Introduction for Final Estimates Process	
PRE-CONSTRUCTION	
Chapter-1 PRE-LETTING ACTIVITIES	
1.1 Plans Review and Comments	
1.2 Contract Duration and Alternative Contracting Technic	
1.3 Pre-Bid Questions and Answers	1-3-1
Chapter-2 OFFICE PREPARATION	
2.1 Project Scheduling	
2.2 Final Estimates Pre-Planning	2-1-2
Chapter-3 PRE-CONSTRUCTION ACTIVITIES	
3.1 Pre-Construction Conference	
3.2 Quality Assurance and Quality Control of Field Operat	
3.3 Contractor's Quality Control Plan	
3.4 Dispute Review Board	3-4-1
3.5 Quality Assurance Review for Final Estimates	3-5-1
Chapter-4 CONSULTANT CEI MANAGEMENT	
4.1 Administration of Consultant CEI Contracts	
4.2 Consultant CEI Accountability	4-2-1
CONSTRUCTION	
Chapter-5 PROJECT DOCUMENTATION	
5.1 Project Diary	
5.2 Contractor Vehicle Registration	
5.3 Subletting of Contract	
5.4 Contract Wage Requirements	
5.5 Equipment Rental	
5.6 Utility Relocation	
5.7 Federal Aid Project Requirements	5-7-1



Other Construction Submittals



- ☐ Requests originating from the Contractor for feedback.
- ☐ Three subsets of classification.



Other Construction Submittals



RFI:

☐ A written document initiated by the Contractor entitled RFI that is submitted to the PA.



Other Construction Submittals

1. Request for Information (RFI)



Including:

- Interpretation of a contract document provision.
- ☐ Errors, omissions or conflicts in the contract documents
- ☐ Pay adjustment or entitlement



Other Construction Submittals

1. Request for Information (RFI)



RFM:

- ☐ A document initiated by, and for the benefit of, the Contractor entitled RFM.
- Request to modify contact documents that is submitted to the PA for coordination with the Department and others on a response to the request.



Other Construction Submittals

2. Request for Modification (RFM)



RFC:

- ☐ A document initiated by the Contractor entitled RFC which is for work that is not in compliance with the contract documents
- Administrator (PA) for coordination with the Department and others on a response to the proposal.



Other Construction Submittals

3. Request for Correction (RFC)



- An RFC contains:
- ☐ Pertinent supporting documents
- ☐ Relevant data



Other Construction Submittals

3. Request for Correction (RFC)



An RFC is essentially a Proposal for correction of work that is not in compliance with the contract documents



Other Construction Submittals

3. Request for Correction (RFC)



Thermal Expansion Misalignment Pedestal Blow-out







Cracked Top of Pile





Thank you everyone!

John Westphal, P.E.

State Construction Structures Engineer

Office of Construction